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ANNUAL PROGRESS REPORT
WATER LEASING STUDY

2000

Submitted to:

Montana Environmental Quality Council
Montana Department of Natural Resources and Conservation
and
Montana Fish, Wildlife and Parks Commission

Submitted by:

Montana Fish, Wildlife and Parks
Fisheries Division

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I. INTRODUCTION

According to 85-2-436(3)(a), MCA, the Department of Fish, Wildlife, and Parks must complete and submit to the Department of Natural Resources and Conservation (DNRC), the Fish and Wildlife Commission (Commission), and the Environmental Quality Council (EQC) an annual water leasing study progress report. The report must include specific information for each lease (which we interpret to mean for each new or renewed lease) including:

- (i) **the length of the stream reach and how it is determined;**
- (ii) **technical methods and data used to determine critical streamflow or volume needed to preserve fisheries;**
- (iii) **legal standards and technical data used to determine and substantiate the amount of water available for instream flows through leasing of existing rights;**
- (iv) **contractual parameters, conditions, and other steps taken to ensure that each lease in no way harms other appropriators, particularly if the stream is one that experiences natural dewatering; and**
- (v) **methods and technical means used to monitor use of water under each lease.** (85-2-436(1)(a), MCA)

One new lease was finalized in 2000, and one lease was renewed.

The progress report must also contain a summary of stream reaches designated by DNRC for study (pursuant to 85-2-437), and a summary of leasing activity on all designated streams. If no new leases have been obtained in the reporting year, FWP must "provide compelling justification for that fact" in the report.

The remainder of this report has been divided into six sections and associated appendices, described as follows:

Section II -- background on the creation of the leasing program;
Section III – our review of the 2000 leasing year, including the new and renewed leases;
Section IV – additional detail on the 2000 new and renewed leases, including the statutorily-required reporting elements for each;
Section V – the statutorily-required reporting on the streams designated, so far, for study and potential leasing under FWP's leasing program; and
Section VI – a selection of program goals for 2001.

Appendix A is a matrix summarizing characteristics of all current FWP leases and water conversions.
Appendix B lists our leasing objectives, which is what we currently use to evaluate leasing offers, as well as actively seek additional lease opportunities.

II. WATER RIGHTS AND THE FWP WATER LEASING PROGRAM

Traditional water law in Montana focuses on the rights and procedures associated with removing water from streams and lakes (appropriating) and putting that water to a beneficial use (e.g. irrigation, fish and wildlife, domestic, mining, etc.) away from the source. Persons who appropriate water from a stream must have a right or permit to do so. A right or permit specifies

how much water can be diverted, for what purpose, during what time period, at what point on the stream, the location of the use of the water, and has a "priority date" assigned to it. The priority date determines who gets the water first; if there isn't enough to go around, the earliest date has the first claim (hence, the "first in time, first in right" maxim).

Except in basins that are closed to new appropriation, Montana's water law allows the Department of Natural Resources and Conservation (DNRC) to issue new permits to divert water if the applicant can show (among other things) that water is reasonably available for the use proposed and that there is a means to ensure persons with senior rights can get the water to which they are entitled. There is no flow level where new appropriations are no longer granted, nor does it specifically matter the extent to which there are other rights on the stream. If water can reasonably be expected to be available (even 1 in 10 years or less), a permit can be issued. The historic system, then, encourages maximum diversion and use of water from Montana's streams.

In the 1970s and 1980s, tools began to be developed to address public goals for retaining some water in certain streams to benefit the fishery. FWP was authorized to apply for instream "reservations" to support fishery values, and some instream flow rights were granted on streams then designated as blue-ribbon trout streams. FWP pursued the authority to reserve water, and was granted a series of reservations in the Yellowstone (1978 priority date), the Missouri River above Ft. Peck (1985 priority date), and the Lower and Little Missouri basins (1989 priority date). Although the reservations are a valuable management tool, they do not provide much assistance in drought conditions, due to their very junior priority status.

In 1988, areas of Montana suffered severe drought conditions, under which the level of diversion typically done in a normal year exacted severe tolls on several fisheries. Photos of fish kills due to stream dewatering hit the front pages of many Montana newspapers. These conditions spurred the 1989 Legislature to consider additional tools and incentives for water users to protect fishery values. The idea of allowing FWP on a temporary basis, to investigate the potential to lease formerly diverted water from a willing seller, to dedicate to instream flows under certain conditions, created a public policy controversy seldom seen in the halls of the Capitol. The concept was narrowly enacted, and since then FWP has pursued attractive leasing opportunities with willing lessors, in streams where dewatering issues significantly limit priority fisheries. These leases have rewatered many streams that traditionally had gone dry due to depletions, with most of these streams now making major contributions to area fisheries.

FWP's temporary instream flow leasing statutes, having been tweaked and extended over the years, were set to expire in 1989. The statutes required the preparation by FWP of a "Final" Report of the leasing program. That report was to be adopted by the Commission and DNRC and submitted to the EQC, for their completion by December 1, 1998. Recognizing the role envisioned in the statutes for the EQC in the evaluation of 10 years of the leasing program, the EQC's Water Policy Subcommittee included a review of the program and related statutes in its Work Plan for the 1997-98 Interim. They conducted public review of the progress and acceptance of the program, and considered various potential changes to the statutes, to be proposed to the 1999 Legislature. The legislation eventually proposed by the EQC renewed the FWP leasing statutes for 10 years, increased the "cap"on the number of streams from which FWP

copuld lease, increased the maximum lease period for certain leases, and require another "Final" Report in 2008, and allowed other leasing programs to lease salvaged (i.e. "conserved") water. Though the EQC received encouragement to be more aggressive in the changes it proposed (i.e. making the program permanent, removing the DNRC study stream approval requirement, etc.), it was the strategy of the Council to propose the minimum necessary bill, to ensure that the whole program wasn't "lost" (i.e. allowed to terminate) because of a too aggressive starting point. Their conclusions, however, encouraged others "to use the legislative committee hearing and amendment process to further test the waters on additional changes to the DFWP's water leasing statutes" (EQC, 1998). The bill, as drafted, received overwhelming support in both houses, and was signed by the Governor on March 19, 1999. We thank the EQC for its efforts to continue and support this program. (Note: Copies of the 1998 Final Report are available both from EQC and FWP staff, upon request.)

III. A REVIEW OF THE 2000 LEASING YEAR

Drought and fires returned to Montana in 2000. As early as February, indications and predictions were that the drying trend of 1998 and 1999 was to continue, at a minimum. High-elevation snowpack was not too far under long-term averages, but low at lower elevations, and the dry soils needed high levels of recharge to reverse the dry trend. A slightly early snowmelt, and relatively dry spring turned warnings into reality. Dry summer months and incredible heat in July and August made conditions even worse for all dependent upon soil moisture and stream flow.

In looking back over the leasing year of 2000, it was dominated by drought– both the reminder that the leases we had in place were critical in times like these, and the reminder that leasing and other water quantity planning tools continued to be critical for Montana.

- **One new water lease finalized.** One new lease, though discussed in the 1999 Annual Report, was finalized in 1999. The lease is located on Rock Creek, near Garrison (Upper Clark Fork basin), and described in Section IV of this report.

- **Another lease renewal.** Testament to the success of another one of our earlier leases, on Tin Cup Creek (Bitterroot basin), all but one of the original lessors and FWP agreed to renew it for 5 years, at the same proportional payment level as the expiring 5-year lease. As our statutory authority limits us to one renewal, this lease opportunity will no longer be available after 2004, without statutory revision. This lease will likely be the first to be constrained by this statutory provision.

- **New lease opportunities.** Word is getting out about FWP's instream flow leasing program. We received many inquiries in 2000, yielding several excellent lease opportunities. We are seriously pursuing instream leasing with water right holders on Little Prickly Pear Creek (Missouri basin below Holter dam), Poorman Creek (Blackfoot Basin), and Prickly Pear Creek (Missouri basin above Holter dam). We hope to report to you next year on leasing success in these areas.

- **Getting the word out…** Given the broad support of the program voiced by the 1999 Legislature and related public comment, we feel more confident in promoting the program. We have developed several versatile sets of informational tools that can easily be transferred and adapted to a variety of informational events and situations. Our "Water for Fish+" display has hit the road several times this year, including being loaned out to non-FWPers for use at a community natural resources fair in the Bitterroot valley and a national meeting on agricultural water conservation projects in Casper Wyoming. A standardized Power Point presentation has been developed for the FWP Water Resources Program, which includes a primer on water rights, and a discussion of water quantity planning tools (including leasing) available to Montana communities. This presentation has been modified and presented in the Shields basin, the Blackfoot drainage, at Southwestern Montana College, at a meeting of the International Instream Flow Council in Michigan, loaned out for an agricultural water conservation meeting in Wyoming, and will again be modified for use at the upcoming extended education session of the Montana Chapter of the American Fisheries Society in Butte. FWP staff have also worked with DNRC staff in incorporating information on leasing and conversions into the DNRC water rights booklets, providing yet another valuable informational resource on a relatively complicated conservation tool. All these informational resources, developed in the last 1.5 years have built FWP's capacity to inform and publicize the opportunities associated with instream flow protection and enhancement, whether through leasing with FWP or otherwise.

- **Improved coordination with other agencies and groups.** Whereas in the past, FWP pursued its leasing opportunities relatively independently, we are working more broadly with other agencies and programs (e.g Natural Resources Conservation Service (NRCS), U.S. Fish and Wildlife Service "Partners" program, Montana Land Reliance, Conservation Districts, etc.). The result is broader inter-agency relationships for us, and also helps those agencies and entities provide multiple services to their cooperators.

- **Supporting leasing/conversion by others.** We continue to assist others interested in leasing to other parties, or converting their rights to instream flow. Such assistance is through funding consideration in our Future Fisheries Improvement grant program, technical assistance in project planning, provision of information on water rights and the conversion process, memos to right holders regarding the potential benefit of conversions on the fishery resource (required by statute), and general encouragement of the use and promotion of all types of instream flow protection/enhancement tools.

- **FWP leases and water reservations now available on the Web.** Early in the year, FWP GIS staff loaded all of FWP's instream flow information into the Water Information System, managed by the Natural Resource Information System (NRIS) at the State Library. It is included in a feature entitled the Montana Rivers Information System, and provides a searchable database of leases and reservations. The user can search for instream flow protection statewide, or by county, waterway, or otherwise, and map the results if desired. The site can be accessed at the following link: http://web1.nris.state.mt.us/scripts/esrimap.dll?name=MRIS2&Cmd=INST . This has proved extremely helpful to our field staff who must answer questions about water rights, as well as

the public interested in where FWP has instream rights or reservations.

- **Initiation and coordination on Executive Order 24-00.** Although discussed in more detail in FWP's Annual Drought Report to the Governor's Drought Advisory Committee, this effort is relevant to leasing due to the promotional benefit derived, at a minimum. Because Montana's statutes allow the Governor to modify state laws in a drought emergency, FWP staff proposed to DNRC staff that a potential modification in this emergency would be to streamline the statute containing the instream flow conversion provisions. DNRC staff agreed, drafted the proposal for Governor signature, obtained approval in short order, and provided input to FWP in the media effort that followed. We appreciate DNRC's support of this proposal. As noted above, although no water right holders chose to formally use the provisions of the Executive Order, the promotion of the Order served to increase interest and knowledge of instream flow enhancement tools in general in Montana.

IV. 2000 NEW AND RENEWED LEASES

FWP and lessors finalized one new lease in 2000, and renewed another. These are described below. The information required by statute for these leases is provided in Figure 1, following the descriptions.

Rock Creek (Near Garrison) – New Lease

This lease was described in the 1999 Annual Report. Because the water right Change Authorization was received on January 5, 2000, it is also included in this report.

Rock Creek flows northeast from Rock Creek Lake in the Flint Mountain Range for 10.6 miles before entering the Clark Fork River near Garrison. Irrigation diversions capture much of the creek's flow, completely dewatering the lower mile during much of the summer irrigation season.

Rock Creek supports resident populations of brown trout, the creek's predominant trout species, and brook trout and a few rainbow x cutthroat hybrids. Because lower Rock Creek is typically dry when brown trout from the Clark Fork River move into tributary streams to spawn, the creek receives virtually no use by brown trout spawners. Limited tributary spawning habitat is one factor that contributes to the low numbers of trout inhabiting the Clark Fork River.

Salvaged portions of six irrigation water rights held by the McGillis Ranch, which include the creek's 2nd and 3rd rights by priority, were leased. These rights are diverted at the creek's four lowermost irrigation diversions located within the lower mile of stream. The four diversions totally dewater the lower creek during much of the irrigation season.

The McGillis Ranch is converting from flood to sprinkler irrigation. Two gravity-fed pivots, using a combined flow of 3.83 cfs, are planned. The Ranch is funding a portion of the project. Additional funding is being provided through the Future Fisheries Improvement Program,

administered by FWP. The grant award is FWP's contribution to the project. The salvaged water created by the project will be leased at no cost to FWP for instream use. In addition, the Ranch agreed to pass a minimum instream flow of 5 cfs in the event that salvaged water is insufficient to meet fishery needs. Construction has begun on the project, with the salvaged water expected to be created (i.e. project completed) in 2000.

The project should provide a continuous flow of water to the Clark Fork River, allowing river brown trout to enter Rock Creek to spawn and young trout to rear before out-migrating to the river. Rewatering of Rock Creek could improve the recruitment of brown trout for the Clark Fork fishery and potentially contribute to the recovery of the river's fish populations.

Tin Cup Creek – Renewed Lease

This lease was originally completed in 1994, for a 5-year period. It was with six individuals who shared the most senior right on the source. The diversion point is the downstream-most diversion point on the stream. Although competition for water is high on the Creek, a commissioner was regularly appointed, and if he/she could get the senior water to the diversion point, there were no others that could legally take it between there and the mouth of the Creek (1.3? miles).

The lease was expected to improve flows for rainbow and cutthroat trout that migrate from the Bitterroot River to spawn in the creek. Population sampling over the period of the lease determined that the flows were likely benefiting rearing conditions for young fish; sampling to confirm specific additional benefits of the lease proved inconclusive.

The original lease was set to expire in fall of 1999, and discussions began on a renewal. FWP staff deliberated over our interest in renewing the lease, as competition was so high for water that water commissioners often had extreme and frequent difficulty getting the water down, requiring high FWP staff time commitments to observe water management in the creek. With only one full-time fish biologist for the Bitterroot valley, at a certain point, excessive time spent on one creek exacts an unreasonable cost to the management of other fisheries in the basin, especially if the biological benefits obtained are moderate at best. We determined we would pursue lease renewal at the current level of payment, and if the lessors would become more involved in the administration of the lease.

Four of the five lessors were interested in renewing under these conditions; the fifth was not, due to personal issues with the other lessors. FWP staff determined that the reduction in water was not enough to significantly limit the biological benefits of the lease, thus was not a deal-breaker for us. The renewal, then, excluded the sixth (former) lessors water, 0.4 cfs of 4.72, and reduced the overall payment proportionally. Although statues allow FWP one renewal of each lease, for a length up to 10 years, the lessors were only interested in a 5-year renewal. FWP felt it was acceptable to renew for a short period, to further test the lease. The renewal expires in 2004. Without legislative change in 2001 or 2003, expiration of the Tin Cup renewal will exhaust FWP's leasing opportunities with these water right holders.

Figure 1. Specific Statutorily-Required Information for 1999 New and Renewed FWP Instream Flow Leases

Statutorily-Required Reporting Element (abbreviated, see p. 1 for full text of reporting requirement)	**Response**
length of stream reach and how determined	**Rock Creek (near Garrison):** The lease will rewater the lower 1.6 miles of Rock Creek. The length is determined by the distance between the new point of diversion for the pipeline, to the mouth of the Rock Creek. **Tin Cup Creek (renewal):** The lease renewal will continue the flow benefits to the lower 1.5 miles of creek. The length is determined by the distance from the Mill Ditch diversion (holders of rights junior to the leased right, which would normally have taken much of the water in the creek), to the mouth of Tin Cup Creek. The diversion point for the leased rights is approximately 0.75 mile from the mouth.
technical methods and data used to determine fishery needs	**Rock Creek:** A series of cross-sectional measurements were taken in the affected reach in 1998. Information on substrate and longitudinal profile was also gathered. The cross-sectional measurements were entered into a hydraulic simulation model, and used with the profile and substrate information to determine minimum flows necessary to support food production for trout, as well as passage for migrating brown trout. The minimum flow of 5 cfs was determined to meet both goals. **Tin Cup Creek:** FWP documented that at the lease flow, a large proportion of riffles were covered with water, therefore critical habitat for spawning and rearing is being provided by the lease flow. This is confirmed by electrofishing results (most recently in 1999) showing young fish in the lease reach; hence there is successful spawning and rearing occurring.
determining and substantiating the amount of water available for lease	**Rock Creek:** The USGS provided monthly percent exceedence flows for Rock Creek. In quantifying the amount of water available to lease, it was determined that historic use exceeded the amount claimed. Historic use was reconciled against claimed use, salvage water calculated (flow and volume), and all calculations described and defended in the Change Application to DNRC. **Tin Cup:** Significant effort went into substantiating the amount of water available when the lease was originally negotiated in the early 1990s. Being a renewal, no additional justification was provided.
ensuring no adverse impact to other appropriators	**Rock Creek:** Only one downstream diversion exists on Rock Creek, and it is currently in operable. The lease agreement, however, incorporated consideration of the unlikely event that this diversion was reactivated. Withdrawals through it would not limit benefits to the fishery, due to seniority of the rights leased and the small amount of flow associated with the defunct diversion. No objections were received to the Change Application. **Tin Cup Creek:** The renewal was noticed by DNRC. The former lessor who chose not to renew submitted information that he felt the renewal would adversely affect his right, because he needed the other rights as "carriage water" to get his water to his property. The rights are all quantified at the common point of diversion from the Creek, not at the users property. The DNRC concluded that the information provided was not sufficient to negate the renewal.
monitoring water use under lease	**Rock Creek:** A staff gauge will be installed in Rock Creek, after completion of the stream restoration work proposed as part of the overall flow/habitat restoration project. Potential relocation of a bridge, and instability of the channel, necessitated the delay. The hours of operation of the new irrigation system will be reported to FWP, and the resulting flow and water use information will be reported to DNRC at the end of each of the first two years of full operation of the project, and upon request thereafter. Although FWP biologists will conduct population sampling (electrofishing) regularly to determine use of the leasing reach by fish, such sampling was prohibited this year due to fire hazard-related closures to use of our electronic equipment. (Other biological monitoring may be invoked as determined by regional fishery management goals.) **Tin Cup Creek:** A staff gauge was installed on a bridge downstream of the former diversion point. A water commissioner is regularly appointed to admeasure rights on the stream, including the lease. FWP personnel also checked the gauge intermittently over the lease period, and contact the commissioner when they noted flows below the lease level. The lease renewal transfers some of this "checking" to the lessors. Electrofishing surveys, using the 2-pass depletion method, have been conducted on the Creek, but (as with Rock Creek) use of such equipment was prohibited during the summer of 2000 in this area.

V. DESIGNATED STUDY STREAMS

Montana statutes require FWP to obtain approval of the commission and DNRC to study a stream for leasing (and thereby lease from it). Figure 2 lists the study streams approved to date, their relevant basins, the status of the approval, and the status of leasing on them. Statutory revisions in 1999 increased the allowed number of study streams from 20 to 40.

Figure 2. Status of Designated Study Streams and Leasing

Study Stream	Basin	Status of Request	Status of Leasing in Reach
1. Swamp Creek	Big Hole River	final approval 3/5/90	no lease; FWP and right holder could not reach agreement on price for lease
2. Big Creek	Yellowstone River	final approval 3/5/90	two leases finalized in 1999
3. Mill Creek	Yellowstone River	final approval 11/9/90	three leases
4. Cedar Creek	Yellowstone River	final approval 1/6/92	lease
5. Blanchard Creek	Blackfoot River	final approval 9/25/92	lease
6. Hells Canyon Creek	Jefferson River	final approval 9/25/92	lease
7. Tin Cup Creek	Bitterroot River	final approval 10/30/92	lease; renewal finalized in 2000
8. Rattlesnake Creek	Clark Fork	final approval 5/25/95	no lease; negotiations on hold
9. Mol Heron Creek	Yellowstone River	final approval 11/28/95	lease
10. Rock Creek	Blackfoot River	final approval 11/28/95	TU lease negotiations on hold, past FWP negotiation information being used in efforts
11. Chamberlain Creek	Blackfoot River	final approval 1/3/96	lease
12. Pearson Creek	Blackfoot River	final approval 1/3/96	lease
13. Rock Creek, near Garrison	Clark Fork River	final approval 7/15/98	lease finalized in 2000
14. Little Prickly Pear	Missouri River, above Holter dam	approved by Commission 11/8/99; not yet submitted to DNRC	project planning

VI. GOALS FOR 2001

In looking forward to 2001, we hope Montana experiences at least normal precipitation and climatic conditions, such that this dry trend can be reversed, and the emphasis on emergency flow-related actions can shift back to long-term flow protection and enhancement efforts. In addition, we have specific and continued goals we hope to achieve in 2000, described below. Our ability to achieve these goals, again, will depend on whether climatic conditions keep us in "emergency response" mode or not.

- **New leases.** We hope we can report to you on several more leases completed in 2000. It should be noted that good lease opportunities are rare (from a water right perspective), and that FWP has found this tool to be most cost-effective for the re-watering of regularly dewatered streams that provide a major benefit to priority fisheries. Water typically offered is small, junior, and not currently being used.

- **More coordination.** We look forward to continued and enhanced coordination with NRCS, the U.S. Fish and Wildlife Service, Conservation Districts, and others to enhance understanding of the program state-wide, and the integration of this tool into planning and restoration efforts by others.

- **Support continued and additional independent effort by individuals and DNRC on addressing instream flow issues.** Montana's Water Use Act identifies the DNRC as its conduit for implementation of the policies of the Act, one of which is:

  > **The water resources of the state must be protected and conserved to assure adequate supplies for public recreational purposes and for the conservation of wildlife and aquatic life. (85-1-101(5), MCA).**

  FWP leasing should not be considered the only mechanism to achieve the above section of state policy. We strongly encourage the use of the "private party leasing/conversion" statutes as yet another tool, and promote such tools (along with many others) whenever provided the opportunity. We know of at least three "conversions" of water to instream flow to benefit the fishery resource, and we continue to encourage these types of actions when leasing with FWP is not the appropriate tool for the water right holder or the department. We encourage DNRC to promote these types of opportunities under the Water Use Act.

We look forward to reporting to you our progress on the achievement of these goals, as well as overall leasing progress, in 2000.

APPENDICES